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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/599,324

Applicant(s)

HERMANSSON ET AL.

Examiner

DUNG HONG

Art Unit

2617

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3-20, 22-28 and 30-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-20, 22-28 and 30-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB06)
Paper No(s)/Mail Date 09/26/2008
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. **Claims 1-20, 22-28, 30-34** on the amendment has its number which indicate their numerical order crossed out, applicant should indicate appropriate number in front of each claim
2. **Claim 22** is objected to because of the following informalities: "as recited in **any** of claim 17". Appropriate correction is required.
3. **Claim 30-33** is objected because it recites a method claim according to claim 26, however, claim 26 is an apparatus claim. Examiner considers the claim is ***depending on claim 28*** and treats it on merits.

Claim Rejections - 35 USC § 112 – 1st paragraph

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. **Claim 12** is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Re **claim 12**, the claim recites the limitation “means of **spring-loaded engaging means** arranged on a side wall of said support unit” which is not found in the specification. Based on specification, the snap locking mechanism between base station and supporting unit is formed by cooperation between the recess portions 601, latch mean 602 of the supporting unit and projecting pins 701 of the base station as shown in fig. 6-9 and [0078] of specification. No support for the “spring-loaded engaging means” is found in the specification. Examiner interpret the claim as the snap locking between base station and supporting unit is realized by engagement between base station and support unit and treat the claim on merits

Re **claim 15**, the claim recites the limitation “said handle further comprises a cable race groove”, which is not found in the specification. Examiner interprets the claim as the base station contain handle portion, and treat it on merits.

Claim Rejections - 35 USC § 112 – 2nd paragraph

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claim 5, 19, 22-24, 26, 34** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re **claim 5 and 19**, the claim contains limitation about “**said rigid metal back plate**” which is lack of antecedent basis because none of the claim that they depend on define any “rigid metal back plate”, which make the claim vague and indefinite. Examiner interprets the limitation as the base station having cooling flanges and treats the claim on merits.

Re **claim 22**, the claim contain limitation recites “**said main circuit board**” which is lack of antecedent basis because none of the claim that they depend on define any “main circuit board”, which make the claim vague and indefinite. Examiner interprets the limitation as the base station having border portion dividing circuit board into block for shielding purpose and treat the claim on merits.

Re **claim 23**, the claim contain limitation recites “**said front plate**” which is lack of antecedent basis because none of the claim that they depend on define any “front plate”, which make the claim vague and indefinite. Examiner note that claim 17 do refer to a front cover element, however, “a front cover” and “said front plate” may refer to different element since fig. 12 discloses a front cover element of the base station unit, and fig. 4 also discloses a front cover element. Examiner interprets the limitation as the base station having a front cover portion

comprising mechanical interface for attaching antenna and treat the claim on merits.

Re **claim 24**, the claim contain limitation recites "the control processing block and radio frequency block of **said** main circuit board.... formed between **said front plate and back plate**" which is lack of antecedent basis because claim 24 depending on claim 19 which is lack of antecedence basis of limitation about "back plate", moreover, the claim 19 recites "rigid metal back plate". Also, there is no antecedence basis for any "control processing bock and radio frequency block" and "said front plate" in any claim that claim 24 depending on, which makes the claim vague and indefinite. Examiner interprets the limitation as the base station having main circuit board with a control processing block and radio frequency block which are shielded from other circuit, shield compartment formed between front and back plate; and treat the claim on merits

Re **claim 26**, the claim recites limitation "said front plate and back plate" and "said circuit board", which is lack of antecedence and make the claim vague and indefinite. Examiner note that claim 17 do refer to a front cover element, however, "a front cover" and "said front plate" may refer to different element since fig. 12 discloses a front cover element of the base station unit, and fig. 4 also discloses a front cover element. There was no back plate element and circuit board defined in any of the preceding claim that claim 26 depending on.

Examiner interpret the claim as the base station has compartment for shielding certain component such as DC/DC block, base band circuit block from other electrical component, and treat the claim on merits.

Re **claim 34**, the claim recites limitation "the back plate", "the front plate", "the circuit board" which has no antecedence basis. Examiner interprets the limitation as "a back plate", "a front plate", and "a circuit board" and treat the claim on merits.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in **Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966)**, that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows: (*See MPEP Ch. 2141*)

- a. Determining the scope and contents of the prior art;
- b. Ascertaining the differences between the prior art and the claims in issue;
- c. Resolving the level of ordinary skill in the pertinent art; and
- d. Evaluating evidence of secondary considerations for indicating obviousness or nonobviousness.

4. **Claim 1 and 27** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Costa** et al., Pat. No. US 6126128 A, in view of **Shapira** et al., Pat. No. US 6640110 B1

Re **claim 1**, Costa discloses a base station comprising:

a support unit (*Fig. 2 - third bracket 4;*) said support unit being adapted to be attached to a support structure (*col. 4 In 47-65 and Fig. 1-2 discloses the third bracket 4 is adapted to attach to structure comprising bracket 2 and 3*), and
a complete base station unit (*Fig. 6 - base station unit 53 with antenna 54*) mechanically supported by said support unit said complete base station unit being designed as a separate docking unit locked in said support unit by cooperating snap locking means arranged in said support unit and base station unit, allowing an easy installation/removal of said complete base station unit in/from said support unit (*Fig. 6 and col. 6 In. 10-21 and col. 6 In. 42-55 discloses the base station element 53-54 is designed as a docking unit to installed by snap locking to the bracket 1*)

However, the reference is silent on further limitation that the support unit including a power supply unit

Shapira discloses scalable telecommunication device wherein the support unit include the power supply unit (*Fig. 8 and col. 9 In 30-36 discloses supporting housing 124 of scalable base station unit contain cavity that including power*

supply circuit) and also discloses the base station system comprising indoor base station unit (*Fig. 17 – IDU 262 with array antenna 266*)

Therefore, the combined teaching of Costa and Shapira would have rendered obvious the invention of claim 1 to implement scalable base station design for improving the flexibility in implement and upgrading the base station.

Re **claim 27**, the scope and content of the claim recites a cellular radio network including the base station of claim 1, therefore, being addressed as in claim 1 by the combined teaching of Costa and Shapira, the further limitation about macro and base station (*Fig. 17 discloses BTS 258 - macro base station - and indoor unit 262 - micro base station*)

5. **Claims 3 and 5** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Costa** et al., Pat. No. US 6126128 A, in view of **Shapira** et al., Pat. No. US 6640110 B1, and **Djuphammar** et al., Pat. No. US 5394459 A

Re **claim 3**, the combined teaching of Costa and Shapira discloses the invention of claim 1, wherein said power supply unit housed in said support unit (*Fig. 8 and col. 9 In 30-36 discloses supporting housing 124 of scalable base station unit contain cavity that including power supply circuit*), however, silent on further limitation about the AC/DC converter feeding said complete base station unit with a DC-voltage

discloses base station unit with support portion comprising power supply section comprising AC/DC converter (*col. 1 In 58 – col. 2 In 26 discloses power supply section of base station including ac/dc converter*)

Therefore, the combined teaching of Costa, Shapira, and Djuphammar would have rendered obvious the invention of claim 3 to provide DC power and implementing modular structure to base station

Re **claim 5**, the combined teaching of Costa, Shapira, Djuphammar discloses the base station according to claim 3 further comprising cooling flanges (*Costa – fig. 6 and col. 6 In 17-20 discloses heat sink in outer surface of base station; Stein – Fig. 2A and col. 4 In 60-63 discloses cooling fin 210; Shapira – Fig. 7-8 col. 9 In. 8-13, 41-43 discloses cooling fin for heat dissipation of inner circuit*)

6. **Claim 4, 6, 14, 17, 19, 23 and 34** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Costa** et al., Pat. No. US 6126128 A, in view of **Shapira** et al., Pat. No. US 6640110 B1 and **Stein**, Pat. No. 5771468

Re **claim 4**, the combined teaching of Costa and Shapira discloses the base station according to claim 1, however, silent on further limitation of claim 4

Stein discloses base station unit has a sandwich structure comprising a rigid metal back plate, a rigid metal front plate (*Fig. 2 and col. 4 In 50-55*)

discloses the enclosure is aluminum, therefore, metal; Fig. 2A-2C discloses the enclosure has cover section 204 – front - and wall section 206 – back), and a main circuit board attached intermediate said back plate and front plate (Fig. 2D and col. 5 In. 9-14 discloses component within enclosure; Fig. 4A-4B, Fig. 5-6 and col. 5 In 35 - col. 6 In 12 discloses circuit within enclosure, therefore main circuit)

Therefore, the combined teaching of Costa, Shapira, and Stein would have rendered obvious the invention of claim 4 to improve the mobility and scalability of base station since multiple system can be incorporated into one base station enclosure.

Re **claim 6**, the combined teaching of Costa, Shapira, and Stein discloses the base station according to claim 4 and further discloses wherein said back plate's cooling flanges are arranged on the side facing away from said circuit board whereby said main circuit board is cooled by means of self-convection through said back plate (*Costa – fig. 6 and col. 6 In 17-20 discloses heat sink in outer surface of base station; Stein – Fig. 2A and col. 4 In 60-63 discloses cooling fin 210; Shapira – Fig. 7-8 col. 9 In. 8-13, 41-43 discloses cooling fin for heat dissipation of inner circuit)*

Re **claim 14**, the combined teaching of Costa and Shapira discloses the base station according to claim 1 however silent on further limitation about the handle portion of base station

Stein discloses base station apparatus wherein said base station comprises a handle at a side portion, allowing the base station to be carried (*Fig. 5-6 and col. 4 In 50-58 discloses base station with handle*)

Therefore, the combined teaching of Costa, Shapira, and Stein would have rendered obvious the invention of claim 14 to provide convenient handle for carrying base station device

Re **claim 17**, the combined teaching of Costa and Shapira discloses the invention of claim 1, however silent on further limitation of claim 17

Stein discloses a base station wherein it comprises an internal antenna covered by a front cover of an electromagnetically transparent material (*Fig. 5-6 discloses the base station comprising RF units; Fig. 2 discloses the enclosure of the device including front and back. Therefore, the front cover is electromagnetically transparent to be able to perform communication*)

Therefore, the combined teaching of Costa, Shapira, and Stein would have rendered obvious the invention of claim 17 to improve the mobility and scalability of base station since multiple system can be incorporated into one base station enclosure.

Re claim 19, the combined teaching of Costa, Shapira, and Stein discloses the invention of claim 17 and further discloses the base station further comprises cooling flanges (*Costa – fig. 6 and col. 6 In 17-20 discloses heat sink in outer surface of base station; Stein – Fig. 2A and col. 4 In 60-63 discloses cooling fin 210; Shapira – Fig. 7-8 col. 9 In. 8-13, 41-43 discloses cooling fin for heat dissipation of inner circuit*)

Re claim 23, the combined teaching of Costa, Shapira, and Stein discloses the invention of claim 17, and further discloses base station comprise a front plate comprises a mechanical interface for attaching an internal antenna, and wherein said antenna is covered by a front cover of an electromagnetically transparent material (*Costa – Fig. 6 and col. 6 In 10-16 discloses antenna 54 was covered by solar shield 55 – front plate. It is obvious that the front plate 55 has to be made by electromagnetically transparent for the antenna to transmit and receive signal*)

Re claim 34, the combined teaching of Costa, Shapira, and Stein discloses the base station of claim 17, and further discloses the step of assembly the base station comprising steps of placing the back plate on an assembly support; placing the circuit board on the back plate; attaching the circuit board to the back plate; placing the front plate on the circuit board; and attaching the front plate to the back plated (*Stein Fig. 2 discloses the base station comprising front*

cover 205 – front plate - and wall section 206 – back plate, and circuit reside on back plate as shown in fig 2D. Therefore, it is obvious that the assembly of the unit involve step of placing circuit in back plate and attaching front and back plate steps)

7. **Claim 7, 9, and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Costa** et al., Pat. No. US 6126128 A, in view of **Shapira** et al., Pat. No. US 6640110 B1, **Djuphammar** et al., Pat. No. US 5394459 A, and **Stein**, Pat. No. 5771468

Re **claim 7**, the combined teaching of Costa, Shapira, and Djuphammar discloses the base station according to claim 3, however silent on further limitation of claim 7

Stein discloses a base station unit wherein all circuits of a control processing block, a base band processing block and an RF block are arranged on said main circuit board (*Fig. 4A-4B, Fig. 5-6 and col. 5 ln 35 - col. 6 ln 12 discloses RF unit and logic unit for wireless communication, therefore, containing base band processing and RF elements*)

Therefore, the combined teaching of Costa, Shapira, Djuphammar, and Stein would have rendered obvious the invention of claim 7 to provide portable base station apparatus to improve mobility of the base station

Re **claim 9**, the combined teaching of Costa, Shapira, and Djuphammar discloses the base station as recited in claim 3, however silent on further limitation of claim 9

Stein discloses base station apparatus comprising a transmission interface block realized in form of a separate circuit board, which is attachable to the main circuit board by means of a contact interface, thereby allowing an easy substitution of said circuit board (*abstract, Fig. 6 discloses the RF and logic unit is connected through PCMCIA slot and can be easily removed, therefore, attachable to main circuit board through interface*)

Therefore, the combined teaching of Costa, Shapira, Djuphammar, and Stein would have rendered obvious the invention of claim 9 to improve the flexibility in upgrading and configuring the base station since the RF and logic interface can be easily connected and replaced.

Re **claim 12**, the combined teaching of Costa, Shapira, Djuphammar, and Stein discloses the invention of claim 9 and further discloses wherein said snap locking means are realized by engagement between base station and supporting unit (*Costa – Fig. 6-7 discloses the base station 53 is snap locking supporting bracket 1*)

8. **Claim 8, 22, 24, 26** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Costa** et al., Pat. No. US 6126128 A, in view of **Shapira** et al., Pat. No. US 6640110 B1, and **Stein**, Pat. No. 5771468, and **Holmes**, Pat. No. US 6180876 B1

Re **claim 8**, Costa, Shapira, and Stein discloses the base station according to claim 6, however, silent on further limitation about border portion that dividing main circuit board in section and the front plate has border to engaged with inner wall to engage with border portion

Holmes discloses method and apparatus for separating portion of circuit to shield electromagnetic field wherein the circuit area are divided into area by wall (*col. 3 In 57 – col. 4 In 43 and Fig. 1 discloses printed circuit board with wall frame 10 and lid 18 to separate portion and provide shielding to different component*)

Therefore, the combined teaching of Costa, Shapira, Stein, and Holmes would have rendered obvious the invention of claim 8 to provide adequate shielding to components on circuit board.

Re **claim 22**, the combined teaching of Costa, Shapira, and Stein discloses the base station as recited in any of claims 17, however silent on further limitation about border portion that dividing main circuit board in section and the front plate has border to engaged with inner wall to engage with border portion

Holmes discloses method and apparatus for separating portion of circuit to shield electromagnetic field wherein the circuit area are divided into area by wall (col. 3 In 57 – col. 4 In 43 and Fig. 1 discloses printed circuit board with wall frame 10 and lid 18 to separate portion and provide shielding to different component)

Therefore, the combined teaching of Costa, Shapira, Stein, and Holmes would have rendered obvious the invention of claim 22 to provide adequate shielding to components on circuit board.

Re **claim 24**, the combined teaching of Costa, Shapira, and Stein discloses the base station as recited in claim 19 further discloses wherein main circuit board is between the front and back plate comprising control processing block and radio frequency block (Stein - abstract, Fig. 6 discloses the RF and logic unit is connected to base station circuit), however, silent on further limitation about the electromagnetically shielded compartments

Holmes discloses method and apparatus for separating portion of circuit to shield electromagnetic field wherein the circuit area are divided into area by wall (col. 3 In 57 – col. 4 In 43 and Fig. 1 discloses printed circuit board with wall frame 10 and lid 18 to separate portion and provide shielding to different component)

Therefore, the combined teaching of Costa, Shapira, Stein, and Holmes would have rendered obvious the invention of claim 24 to provide adequate shielding to components on circuit board.

Re **claim 26**, the combined teaching of Costa, Shapira, and Stein discloses the base station according to claim 23 further wherein *said circuit board*, a base band processing block and a DC/DC block of said circuit board (Stein - Fig. 2D and col. 5 ln. 9-14 discloses component within enclosure; Fig. 4A-4B, Fig. 5-6 and col. 5 ln 35 - col. 6 ln 12 discloses circuit within enclosure, therefore main circuit. Fig. 2D discloses DC/DC block; Fig. 6 disclose RF unit for communication and logic therefore, base band processing block), however, the combined teaching is silent on further limitation about those component are shielded in separate compartment with other circuits

Holmes discloses method and apparatus for separating portion of circuit to shield electromagnetic field wherein the circuit area are divided into area by wall (col. 3 ln 57 – col. 4 ln 43 and Fig. 1 discloses printed circuit board with wall frame 10 and lid 18 to separate portion and provide shielding to different component)

Therefore, the combined teaching of Costa, Shapira, Stein, and Holmes would have rendered obvious the invention of claim 26 to provide adequate shielding to components on circuit board.

9. **Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Costa** et al., Pat. No. US 6126128 A, in view of **Shapira** et al., Pat. No. US 6640110 B1 and **Repc**o, Pat. No. GB 1398570 A

Re **claim 10**, the combined teaching of Costa and Shapira discloses the invention of claim 1 however silent on further limitation about wherein said support unit comprises support members and said base station unit comprises cooperating hanger members which are devised to connect to said support members in a pivoting engagement, and wherein said snap locking means are included in said support unit and in said base station unit, which are devised to engage with each other by pivoting said base station unit

Repc

o discloses method and apparatus for engaging two piece of device wherein said support unit comprises support members of second unit comprises cooperating hanger members which are devised to connect to first unit in a pivoting engagement , and wherein said snap locking means are included in said first and second unit, which are devised to engage with each other by pivoting second unit (*Fig. 5-6 and page 2 In 90-115 discloses the battery - second unit - is designed to have hanger pin 29, 33 to engage with transceiver unit 25 - first unit – by pivoting the second unit*)

Therefore, the combined teaching of Costa, Shapira, and Repco would have rendered obvious the invention of claim 10 to provide convenient latching mechanism in connecting base station to support unit

10. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Costa** et al., Pat. No. US 6126128 A, in view of **Shapira** et al., Pat. No. US 6640110 B1, **Djuphammar** et al., Pat. No. US 5394459 A, and **Stein**, Pat. No. 5771468, and **RepcO**, Pat. No. GB 1398570 A

Re **claim 11**, the combined teaching of Costa, Shapira, Djuphammar, and Stein discloses the base station according to claim 9, however, silent on further limitation of claim 11

RepcO discloses method and apparatus for engaging two piece of device by snap locking mechanism wherein said snap locking means are formed by an inwardly projecting knob on a side wall of the first unit (*Fig. 5 element 61, 63, 65*) , and a cooperating recess in second unit (*Fig. 6 and page 2 In 90-115 discloses operation of engaging the cam edge 69-71 to the other unit, therefore, corresponding recess in other unit for engaging the cam edge*) , wherein engagement of the knob and the recess locks second unit from moving vertically upwards and horizontally outwards from the first unit (*fig. 6 and page 2 In 90-115 discloses the engagement between two housing, which would prevent the two unit from moving from one another*)

Therefore, the combined teaching of Costa, Shapira, Djuphammar, Stein, and Repco would have rendered obvious the invention of claim 11 to provide convenient latching mechanism in connecting base station to support unit

11. **Claim 13** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Costa** et al., Pat. No. US 6126128 A, in view of **Shapira** et al., Pat. No. US 6640110 B1, and **Tse**, Pub. No. US 20030069959 A1

Re **claim 13**, the combined teaching of Costa and Shapira discloses the base station according to claim 1, however, silent on further limitation of claim 13

Tse discloses method and apparatus for communication wherein base station comprises at least one interface for connecting an external alarm equipment with a control processing circuit of said base station, thereby allowing the establishment of a communication channel between said external alarm equipment and a central alarm station *{[0004]-[0005] discloses EMS system that collect alarms from network element such as base station – therefore, external alarm equipment – and further processing alarm for one or more manager which is other EMS entities – central alarm station; Fig. 3 and [0019] discloses alarm management system AMS 100 for collecting alarms and reporting to manager device 54}*

Therefore, the combined teaching of Costa, Shapira, and Tse would have rendered obvious the invention of claim 13 to provide efficient alarm reporting for network element, therefore, improving the network performance

12. **Claim 15** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Costa** et al., Pat. No. US 6126128 A, in view of **Shapira** et al., Pat. No. US 6640110 B1, **Tse**, Pub. No. US 20030069959 A1, and **Stein**, Pat. No. 5771468

Re **claim 15**, the combined teaching of Costa, Shapira, and Tse discloses the base station according to claim 13, however silent on further limitation of claim 15 about the handle portion of base station device

Stein discloses base station apparatus wherein said base station comprises a handle at a side portion, allowing the base station to be carried (*Fig. 5-6 and col. 4 In 50-58 discloses base station with handle*)

Therefore, the combined teaching of Costa, Shapira, Tse and Stein would have rendered obvious the invention of claim 15 to provide convenient handle for carrying base station device

13. **Claim 16** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Costa** et al., Pat. No. US 6126128 A, in view of **Shapira** et al., Pat. No. US 6640110 B1, **Stein**, Pat. No. 5771468, and **Pritchard** et al., Pub. No. US 20040179342 A1

Re **claim 16**, the combined teaching of Costa, Shapira, and Stein discloses the base station according to claim 14 and further discloses wherein at least one cable contact is positioned at the lower end of said base station (*Stein – Fig. 2B and col. 5 In 1-5 discloses cable contact 216*)

However silent on further limitation about when the base station unit is installed in said support unit, under said handle and tilted about 45 degrees.

Pritchard discloses portable electronic apparatus wherein the handle can be adjusted to different angle including 45 degree (*Fig. 5-7 and [0024]-[0025] discloses handle for carrying device that can lock in certain angle such as 45 degrees*)

Therefore, the combined teaching of Costa, Shapira, Stein, and Pritchard would have rendered obvious the invention of claim 16 to provide ability to adjust the handle at certain angle to improve usability of the handle

14. **Claim 18, 20, and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Stein**, Pat. No. 5771468, in view of **Shapira** et al., Pat. No. US 6640110 B1, and **Gibson** et al., Pat. No. US 6160699 A

Re **claim 18**, Stein discloses a base station unit having a sandwich structure (*Fig. 2B-2C discloses sandwich structure of base station*) comprising :

a rigid metal back plate, a rigid metal front plate (*Fig. 2 and col. 4 In 50-55 discloses the enclosure is aluminum, therefore, metal; Fig. 2A-2C discloses the enclosure has cover section 204 – front - and wall section 206 – back*), and a main circuit board attached intermediate said back plate and front plate (*Fig. 2D and col. 5 In. 9-14 discloses component within enclosure; Fig. 4A-4B, Fig. 5-6*

and col. 5 In 35 - col. 6 In 12 discloses circuit within enclosure, therefore main circuit)

wherein all circuits of a control processing block, a base band processing block and an RF block are arranged on said main circuit board (*Fig. 4A-4B, Fig. 5-6 and col. 5 In 35 - col. 6 In 12 discloses RF unit and logic unit for wireless communication, therefore, containing base band processing and RF elements*)

However, Stein discloses the power supply unit is comprised within based station (*Fig. 2D*) and silent on further limitation about connection to RNC, antenna

Shapira discloses scalable base station structure comprising a base station unit having an interface for connection to a radio network controller, RNC (*Fig. 17 discloses base station system having base station BTS connect to BSC which is equivalent to Radio Network Controller*), and to an antenna (*Fig. 8 and col. 9 In 30-55 discloses the transmission block with interfacing with receiving block, therefore, antenna*), and also discloses the base station system comprising indoor base station unit (*Fig. 17 – IDU 262 with array antenna 266*)

Therefore, it would have rendered obvious to combine the teaching of Stein and Shapira to implement scalable base station design for improving the flexibility in implement and upgrading the base station

However, the combined teaching is silent on details about interfacing to a power supply

Gibson discloses method and apparatus for mounting telecommunication equipment wherein the equipment is mounted in rack and provide power to load (*col. 1 In 12-24 discloses cabinet enclosure comprising power supply unit; Fig. 6 and col. 7 In 40-50 discloses back up power – power supply unit – for distributing power into loads in cabinet*)

Therefore, the combined teaching of Stein, Shapira, and Gibson would have rendered obvious the invention of claim 18 to provide separate power supply for the base station therefore, improving reliability of power supply

Re **claim 20**, the combined teaching of Stein, Shapira, and Gibson discloses the base station as recited in claim 18, wherein said cooling flanges are arranged on a side facing away from said circuit board, and wherein said main circuit board is cooled by means of self-convection of said back plate (*Stein – Fig. 2A and col. 4 In 60-63 discloses cooling fin 210 facing away from circuit inside the base station enclosure; Shapira – Fig. 7-8 col. 9 In. 8-13, 41-43 discloses cooling fin for heat dissipation of inner circuit*)

Re **claim 25**, the combined teaching of Stein, Shapira, and Gibson discloses the base station as recited in claim 18, and further discloses wherein a transmission interface block is realized on a separate circuit board, which is attachable to the main circuit board by means of a contact interface, thereby allowing the easy substitution of said circuit board (*Stein - abstract, Fig. 6*

discloses the RF and logic unit is connected through PCMCIA slot and can be easily removed, therefore, attachable to main circuit board through interface)

15. **Claim 28 and 32-33** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Costa** et al., Pat. No. US 6126128 A, in view of **Shapira** et al., Pat. No. US 6640110 B1, and **Haakana** et al., Pat. No. US 6411809 B1

Re **claim 28**, the scope and content of the claim recites method for installing the base station of claim 1 by assembling the mechanical structure together, therefore, being addressed as in claim 1 by Costa and Shapira. The further limitation of claim is address as following:

connecting the base station unit to a radio network controller of said network (*Shapira – Fig. 17 discloses base station 258 is connected to the network controller BSC 256*), to an antenna (*Shapira - Fig. 8 and col. 9 In 30-55 discloses the transmission block with interfacing with receiving block, therefore, antenna*), and to said power supply unit (*Fig. 8 and col. 9 In 30-36 discloses supporting housing 124 of scalable base station unit contain cavity that including power supply circuit, therefore, connecting to power supply unit in order to the base station to function*) ; and

Haakana discloses method and apparatus for connecting network element to network comprising step of downloading application software and office data from a management tool to said base station unit, allowing the establishment of a

communication channel between said base station unit and said RNC (*col. 5 In 9-16 and col. 5 In 38-55 discloses downloading software and network parameter to base station unit for connecting to base station controller*)

Therefore, the combined teaching of Costa, Shapira, and Haakana would have rendered obvious the invention of claim 28 to improve the method of configuring the communication network since manual configuration is reduced.

Re **claim 32**, the combined teaching of Costa, Shapira, and Haakana discloses the method as recited in claim 28, comprising the step of: connecting said management tool directly to said base station unit by means of a Local Management Tool, for direct downloading of said application software and office data to the base station unit (*Haakana - col. 5 In 9-16 and col. 5 In 38-55 discloses downloading software and network parameter to base station unit for connecting to base station controller, the base station which is network element under the base station controller that download software to the base station, therefore, local management tool*)

Re **claim 33**, the combined teaching of Costa, Shapira, and Haakana discloses the method as recited in claim 28, comprising the step of: connecting said management tool to a central radio network controller, RNC, of said network, for downloading of said application software and office data to the base station through said network (*Haakana – Fig. 5 discloses the BSC is connected*

to MSC and MNS – central radio network controller; col. 5 In 9-16 and col. 5 In 38-55 discloses downloading software and network parameter to base station unit through network)

16. **Claim 30** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Costa** et al., Pat. No. US 6126128 A, in view of **Shapira** et al., Pat. No. US 6640110 B1, **Haakana** et al., Pat. No. US 6411809 B1 and **Repco**, Pat. No. GB 1398570 A

Re **claim 30**, the combined teaching of Costa, Shapira, and Haakana discloses the method according to claim 28, however, silent on further limitation of claim 30

Repco discloses method and apparatus for engaging two piece of device wherein said support unit comprises support members of second unit comprises cooperating hanger members which are devised to connect to first unit in a pivoting engagement , and wherein said snap locking means are included in said first and second unit, which are devised to engage with each other by pivoting second unit (*Fig. 5-6 and page 2 In 90-115 discloses the battery - second unit - is designed to have hanger pin 29, 33 to engage with transceiver unit 25 - first unit – by pivoting the second unit*)

Therefore, the combined teaching of Costa, Shapira, Haakana, and Repco would have rendered obvious the invention of claim 30 to provide convenient latching mechanism in connecting base station to support unit

17. **Claim 31** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Costa** et al., Pat. No. US 6126128 A, in view of **Shapira** et al., Pat. No. US 6640110 B1, **Haakana** et al., Pat. No. US 6411809 B1, and **Tse**, Pub. No. US 20030069959 A1

Re **claim 31**, the combined teaching of Costa, Shapira, and Haakana discloses the method according to claim 28 further comprising the steps downloading software and network parameter to base station for establishing communication with other network element (*Haakana - col. 5 In 9-16 and col. 5 In 38-55 discloses downloading software and network parameter to base station unit for connecting to base station controller*), however, silent on further limitation about connecting external equipment and establishing communication channel between alarm equipment and central alarm station

Tse discloses method and apparatus for communication wherein base station comprises at least one interface for connecting an external alarm equipment with a control processing circuit of said base station, thereby allowing the establishment of a communication channel between said external alarm equipment and a central alarm station (*[0004]-[0005] discloses EMS system that collect alarms from network element such as base station – therefore, external alarm equipment – and further processing alarm for one or more manager which is other EMS entities – central alarm station; Fig. 3 and [0019] discloses alarm*

management system AMS 100 for collecting alarms and reporting to manager device 54)

Therefore, the combined teaching of Costa, Shapira, Haakana and Tse would have rendered obvious the invention of claim 31 to provide efficient alarm reporting for network element, therefore, improving the network performance

Conclusions

Applicant is invited to amend the claims to correct the minor formalities and overcome rejections. Specific details specifically point out the novelty concept of the base station is encourage to be placed in the claim to expedite the prosecution procedures

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DUNG HONG whose telephone number is (571) 270-7928. The examiner can normally be reached on Monday-Friday from 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JINSONG HU, can be reached on (571) 272-3965. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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